

AMENDMENTS TO THE CLAIMS

Claims 1-59 (Canceled)

Claim 60 (New): A material for purification of an acidic semiconductor polishing slurry used in a semiconductor polishing process, comprising:

a fibrous substrate;

an ethylenical hydroxyl group introduced onto the fibrous substrate for adsorbing at least one of a colloidal metal and a metal compound contained in the acidic semiconductor polishing slurry, the ethylenical hydroxyl group having a hydroxyl value of 40 mg KOH/g or more; and

an acid-type (H type) functional group introduced onto the fibrous substrate for ion-exchanging a metal ion contained in the acidic semiconductor polishing slurry or for forming a metal chelate with the metal ion.

Claim 61 (New): The material of Claim 60,

wherein the acid-type functional group for forming a metal chelate is at least one group selected from a group containing aminocarboxylic acids, a group containing phosphoric acids, and a group containing thio compounds, and

wherein the fibrous substrate includes at least one selected from a plant-based natural fiber, an animal-based natural fiber, a cellulose-based regenerated fiber, a polyvinyl alcohol-based synthetic polymer fiber, polyethylene imine-based synthetic polymer fiber, polyester-based synthetic polymer fiber, polyvinyl chloride-based synthetic polymer fiber, polyacrylonitrile-based synthetic polymer fiber, polyamide-based synthetic polymer fiber and polyolefin-based synthetic polymer fiber.

Claim 62 (New): A material for purification of a basic semiconductor polishing slurry used in a semiconductor polishing process, comprising:

a fibrous substrate;

an ethylenical hydroxyl group introduced onto the fibrous substrate for adsorbing at least one of a colloidal metal and a metal compound contained in the basic semiconductor polishing slurry, the ethylenical hydroxyl group having a hydroxyl value of 40 mg KOH/g or more; and

an alkali-metal-type functional group introduced onto the fibrous substrate for ion-exchanging a metal ion contained in the basic semiconductor polishing slurry or for forming a metal chelate with the metal ion, the alkali-metal-type functional group having alkali metal or ammonium at an ion exchange site thereof.

Claim 63 (New): The material of Claim 62,

wherein the alkali-metal-type functional group for forming a metal chelate is at least one group selected from a group containing aminocarboxylic acids, a group containing phosphoric acids, and a group containing thio compounds, and

wherein the fibrous substrate includes at least one selected from a plant-based natural fiber, an animal-based natural fiber, a cellulose-based regenerated fiber, a polyvinyl alcohol-based synthetic polymer fiber, polyethylene imine-based synthetic polymer fiber, polyester-based synthetic polymer fiber, polyvinyl chloride-based synthetic polymer fiber, polyacrylonitrile-based synthetic polymer fiber, polyamide-based synthetic polymer fiber and polyolefin-based synthetic polymer fiber.

Claim 64 (New): A process for purification of an acidic semiconductor polishing slurry used in a semiconductor polishing process, comprising:

preparing a removing module having the material according to Claim 60;
passing the acidic semiconductor polishing slurry through the removing module to remove metals present in the acidic semiconductor polishing slurry; and
polishing a semiconductor by use of the acidic semiconductor polishing slurry passed through the removing module.

Claim 65 (New): The process of Claim 64, further comprising:

passing the acidic semiconductor polishing slurry through the removing module to remove metals present in the acidic semiconductor polishing slurry after polishing the semiconductor.

Claim 66 (New): The process of Claim 64,

wherein the acid-type functional group for forming a metal chelate is at least one group selected from a group containing aminocarboxylic acids, a group containing phosphoric acids, and a group containing thio compounds, and

wherein the fibrous substrate is at least one selected from a plant-based natural fiber, an animal-based natural fiber, a cellulose-based regenerated fiber, a polyvinyl alcohol-based synthetic polymer fiber, polyethylene imine-based synthetic polymer fiber, polyester-based synthetic polymer fiber, polyvinyl chloride-based synthetic polymer fiber, polyacrylonitrile-based synthetic polymer fiber, polyamide-based synthetic polymer fiber and polyolefin-based synthetic polymer fiber.

Claim 67 (New): A process for purification of an acidic semiconductor polishing slurry used in a semiconductor polishing process, comprising:

preparing a removing module having a plurality of the material according to Claim 60 forming a layer structure;

passing the acidic semiconductor polishing slurry through the removing module to remove metals present in the acidic semiconductor polishing slurry; and

polishing a semiconductor by use of the acidic semiconductor polishing slurry passed through the removing module.

Claim 68 (New): The process of Claim 64,
wherein the material is formed into a self-supportable sheet.

Claim 69 (New): The process of Claim 64,
wherein the material is charged in a container provided with an inflow port and an outflow port for the polishing slurry so as to allow the polishing slurry to flow through.

Claim 70 (New): The process of Claim 64,
wherein the material is disposed in a flowable state within an area partitioned by a filter or a strainer through which the polishing slurry flows in a container provided with an inflow port and an outflow port for the semiconductor polishing slurry.

Claim 71 (New): A process for purification of a basic semiconductor polishing slurry used in a semiconductor polishing process, comprising:

preparing a removing module having the material according to Claim 62;

passing the basic semiconductor polishing slurry through the removing module to remove metals present in the basic semiconductor polishing slurry; and

polishing a semiconductor by use of the basic semiconductor polishing slurry passed through the removing module.

Claim 72 (New): The process of Claim 71, further comprising;

passing the basic semiconductor polishing slurry through the removing module to remove metals present in the basic semiconductor polishing slurry after polishing the semiconductor.

Claim 73 (New): The process of Claim 71,

wherein the alkali-metal-type functional group for forming a metal chelate is at least one group selected from a group containing aminocarboxylic acids, a group containing phosphoric acids, and a group containing thio compounds, and

wherein the fibrous substrate includes at least one selected from a plant-based natural fiber, an animal-based natural fiber, a cellulose-based regenerated fiber, a polyvinyl alcohol-based synthetic polymer fiber, polyethylene imine-based synthetic polymer fiber, polyester-based synthetic polymer fiber, polyvinyl chloride-based synthetic polymer fiber, polyacrylonitrile-based synthetic polymer fiber, polyamide-based synthetic polymer fiber and polyolefin-based synthetic polymer fiber.

Claim 74 (New): A process for purification of a basic semiconductor polishing slurry used in a semiconductor polishing process, comprising:

preparing a removing module having a plurality of the material according to Claim 62 forming a layer structure;

passing the basic semiconductor polishing slurry through the removing module to remove metals present in the basic semiconductor polishing slurry; and

polishing a semiconductor by use of the basic semiconductor polishing slurry passed through the removing module.

Claim 75 (New): The process of Claim 71,
wherein the material is formed into a self-supportable sheet.

Claim 76 (New): The process of Claim 71,
wherein the material is charged in a container provided with an inflow port and an outflow port for the polishing slurry so as to allow the polishing slurry to flow through.

Claim 77 (New): The process of Claim 71,
wherein the material is disposed in a flowable state within an area partitioned by a filter or a strainer through which the polishing slurry flows in a container provided with an inflow port and an outflow port for the semiconductor polishing slurry.

Claim 78 (New): A material for purification of an acidic semiconductor polishing slurry used in a semiconductor polishing process, comprising:

a fibrous substrate;

an ethylenical hydroxyl group introduced onto the fibrous substrate for adsorbing at least one of a colloidal metal and a metal compound contained in the acidic semiconductor polishing slurry, the ethylenical hydroxyl group having a hydroxyl value of 40 mg KOH/g or more;

an acid-type (H type) ion-exchange functional group introduced onto the fibrous substrate for ion-exchanging a metal ion contained in the acidic semiconductor polishing slurry; and

an acid-type (H type) chelate-forming functional group introduced onto the fibrous substrate for forming a metal chelate with the metal ion.

Claim 79 (New): A material for purification of a basic semiconductor polishing slurry used in a semiconductor polishing process, comprising:

a fibrous substrate;

an ethylenical hydroxyl group introduced onto the fibrous substrate for adsorbing at least one of a colloidal metal and a metal compound contained in the basic semiconductor polishing slurry, the ethylenical hydroxyl group having a hydroxyl value of 40 mg KOH/g or more;

an alkali-metal-type ion-exchange functional group introduced onto the fibrous substrate for ion-exchanging a metal ion contained in the basic semiconductor polishing slurry, the alkali-metal-type ion-exchange functional group having alkali metal or ammonium at an ion exchange site thereof; and

an alkali-metal-type chelate-forming functional group introduced onto the fibrous substrate for forming a metal chelate with the metal ion, the alkali-metal-type chelate-forming functional group having alkali metal or ammonium at an ion exchange site thereof.